

THE
PSYCHOLOGICAL BULLETIN

THE NATURE OF CROWDS.

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According to a well-known view the crowd-mind is a 'disaggregated' personal mind, the ordinary mind of an individual shorn of its sense of responsibility, its reason and its initiative. The crowd-mind is like the hypnotic mind in exposing the suggestibility of a man naked to the influence of those around him. It is said that participation in the life of a crowd has this effect, that a man no longer controls his own thoughts and acts, but carries out more or less automatically the ideas he receives from others. To share the crowd mind is to have less than a whole mind, is to sacrifice for the time being the noble powers of discriminating judgment and reason. This being assumed, the crowd ought to develop the worst side of men and women, and the term has been accordingly restricted by some to those collections of individuals which go to excesses of folly and crime. When this truncated condition is relatively unsteady and transient, we have, according to this view, a crowd-mind, and when relatively steady and permanent, a mob-mind.

This study is not written from that point of view. The crowd-mind is a whole mind acting under a group-influence to which man is remarkably susceptible. In the lynching party and the riot, a man solemnly feels that he ought to strike, that it is the only thing to do under the circumstances. Of course there is a mob-consciousness, and the essential truth of its description at the hands of psychologists need not be called in question here; but we believe it to be possible for a man to enter into the life of a crowd without suffering the least loss of personality. If loss of personality meant nothing more than loss of self-consciousness and the powers of mind dependent upon it, the circumstance would not be characteristic of crowd experiences. Everyone, when excited, that is, when intensely and narrowly inter-

ested in a single object of thought, loses for the time his consciousness of himself, but why should we say a collection of individuals is never a crowd unless they all thus lose their heads together?

Where people meet by accident and not in the carrying out of any one purpose, where they are simply together in time and space without being conscious of sharing any concrete experience, they certainly do not possess the sort of mental unity which constitutes a crowd-mind: and on the other hand, when people are conscious of sharing a concrete and very interesting experience, it matters little whether they are near each other in space or not. The destruction of the *Maine* so unified the imagination and feeling of the American people as to make the entire nation for the time being a crowd. Where people are by accident in one place and share no concrete purpose, their ideas do not take a common direction, they do not feel and act alike, each goes his own way very much as he would do if there were no one near him. If sufficiently numerous they are still called a crowd in the popular use of the term, but not in psychology. What mental unity they possess is too abstract and conceptual, too far removed from concrete issues and circumstances, to give them what is called a crowd-mind.

The question whether a collection of men and women is a psychological crowd is a question whether they share knowingly a single concrete purpose and perceptual experience. On a Sunday morning when people are strolling in groups to the churches on Fifth Avenue, mildly conscious as they pass along that they share the same concrete purpose with the many who precede and follow them, they constitute a crowd just as truly as the same people after they have entered the churches and sit elbow to elbow within sound of the organ and the preacher's voice. We deliberately choose extreme illustrations to bring out the worst side of the theory to be maintained here, namely, its comprehensiveness. There is a lay opinion that the psychological accounts of the crowd are extreme and overdrawn, that in short the crowd-mind is not irrational except where the conditions are such as would render an individual irrational. Such an opinion fails to do justice to the part played by suggestion whenever people are in a position to influence each other directly, but the opinion is psychologically justified by the one-sided devotion with which mobs have been studied to the neglect of such crowds as gathered at the World's Fair at St. Louis last summer, where people were not excited although profoundly influenced by each other's moods and actions.

A classification of crowds is clearly necessary, and it should be remembered that all classification is relative. Nature does not seem

to be interested in classes and any one of several classifications is possible whenever we undertake to divide up a group of phenomena. Whether our classifications are true or not depends upon their usefulness to science, that is, upon the degree to which they help us to understand nature. Different collections of individuals differ in two respects which are for the understanding of their psychology very important, namely, they differ in the kinds of experiences they share and in the constancy with which they are conscious of sharing them. A body of young men are conscious of sharing the student-life which they actually make for each other, and a body of citizens are similarly conscious of their civic solidarity; but students are more continuously aware of the unity of their student-life when they are met for a concrete purpose at an intercollegiate foot-ball game than when they sit apart in their rooms, and citizens are more intensely aware of their statehood when carrying on a foreign war than when engaged in the peaceful pursuits of trade and literature. In both cases we have illustrations of two types of social consciousness, the one abstract, conceptual and reflective, the other concrete, perceptual and active, and the two differ as do the society-consciousness and the crowd-consciousness.

The social consciousness and the crowd consciousness are alike in being consciousnesses of shared experiences, but they differ as the concrete and particular differs from the normative and abstract. The sense, possessed by all normal human beings, that we exist and work under a common moral obligation, is a consciousness of shared experience; so also is our awareness of certain truths, especially those emphasized by the 'philosophy of common sense.' Truth and duty are shared experiences, but the consciousness of them does not constitute a crowd-mind unless they are invested with the perceptual imagery of the religious imagination. It may be that the heavenly hierarchy and the divine world-drama of the middle ages have largely lost their influence in the present because by criticism and analysis they have been robbed of their suggestiveness for the crowd. In place of all that we have certain abstract conceptions which can never become the basis of a crowd-consciousness. It may be that the religion of Christendom has been more largely a crowd phenomenon than we ordinarily think. Such shared experiences as a foot-ball game are concrete and factual; even in anticipation and recollection the game is pictured as an imaginative complex made up of memories of the crowd, the shouting, the field and the struggling teams. In the case of the crowd the shared experience is limited to the crowd, while in a society the experience is universal and

normative. Crowd-experience is particular while ordinary social experience is general. The crowd-consciousness is transient while ordinary social consciousness is permanent. Crowd-experience is collective while ordinary social experience is individual. The ordinary social consciousness centers in an ideal which comprehends the highest welfare of all, while the crowd considers only itself and does not wish to be reminded of the wider reaching obligations of man to man the world over. The ordinary social consciousness is a more or less intermittent affair, while the crowd-mind, so long as it lasts, is continuous.

It must not be supposed that in shared experiences the consciousness of ourselves and others is always clear and definite. Based upon social instincts which men share with some of the lower animals it is often a 'sense,' a vague idea saturated with feeling and represented in consciousness by a readiness to act as though we were associated with others for weal or woe in what we think and do. One of the most important differences between a crowd and a herd lies in the presence of an idea of the group-experience in the minds of the crowd and the absence of any such idea from the herd. The basis of the herd-mind is feeling and instinctive attitude rather than idea, although even a herd of stampeding cattle must have some vague and rudimentary notion of the intense experiences they share. The members of a crowd are always aware of the crowd with its concrete purpose, its physical bigness and power. It is quite impossible for an ordinary man to feel himself one of a crowd of angels, because it is so out of the question to rub elbows with an angel. In the crowd men are conscious of each other's bodily presence and of certain concrete limitations of time and space and circumstance within which they move.

We are now ready to say what a crowd is, namely, a numerous collection of people who face a concrete situation together and are more or less aware of their bodily existence as a group. Their facing the situation together is due to common interests and the existence of common circumstances which give a single direction to their thoughts and actions. Crowds may be classified according to the degree of definiteness and constancy of this consciousness. When it is very definite and constant the crowd may be called homogeneous, and when not so definite and constant, heterogeneous. All mobs belong to the homogeneous class, but not all homogeneous crowds are mobs. A skillful orator makes his audience homogeneous by so stating their problem as to awaken, where it does not already exist, a concrete and lively sense of their common need, thereby rendering his further task of leadership a possible one. Whether a given crowd belong to the

one group or to the other may be a debatable question, and the same crowd may imperceptibly pass from one to the other.

The two classes of crowds differ in degrees of homogeneity, and we may now add that they differ in deliberateness. In relatively heterogeneous crowds what mental unity exists is to a greater or less extent deliberate: their members share a concrete experience because they continually will to do so. They imitate each other and carry out the suggestions of the time and place, not by blind instinct and impulse, but deliberately and with a sense of self-commitment or self-indulgence. In extremely homogeneous crowds, on the other hand, deliberation is lacking, the individual is absorbed in the crowd-purpose and receives direction from a crowd-leader who arises out of the crowd in response to its own demand for leadership. The leader secures the attention of his associates partly because he shares its mental life. He is usually as excited and as lacking in deliberation as they are, and whatever leadership he exercises is really a function of the crowd-mind.

In conclusion, the crowd-mind is not a disintegrated personal mind but a whole mind acting under a strong group-influence; the consciousness of a crowd is perceptual, factual and active, while the ordinary social consciousness is conceptual, normative and individual; and crowds may be characterized according to the homogeneity of the individual minds composing them, the mob being at one extreme and the merely casual collection of individuals at the other. The present writer feels that the theory of crowd-psychology can be bettered by adopting some such broad conception of the crowd as is here outlined.¹

¹ The MS. of this article was received Jan. 2, 1905. — ED.

PSYCHOLOGICAL LITERATURE.

THE LIFE OF REASON.

The Life of Reason, or The Phases of Human Progress. GEORGE SANTAYANA. Charles Scribner's Sons, 1905.

The title of this work is taken from the phrase of Aristotle that life is reason in operation. It aims accordingly to be a sort of autobiography of the human intellect — a history of its progress.

"The life of reason will then be a name for that part of experience which perceives and pursues ideals — all conduct so controlled and all sense so interpreted as to perfect natural happiness." Reason is thus conceived as efficacious reflection. The life of reason is the designation for all practical thought and all action justified by its fruits in consciousness. To recount man's rational moments would be to take an inventory of all his goods. Accordingly the author's purpose is to trace in outline the elements that enter into such a life of reason.

Reason, he conceives, requires the fusion of two types of life, one a life of impulse, expressed in a life of affairs and social passions; the other a life of reflection, expressed in religion, science, and the imitative arts. In harmony with this fundamental conception the scope of the entire work contemplates five volumes, divided as follows: I., 'Reason in Common Sense'; II., 'Reason in Society'; III., 'Reason in Religion'; IV., 'Reason in Art'; V., 'Reason in Science.' The first and second volumes of the above only have yet been published.

Volume I. contains an Introduction to the entire work, as well as the discussion of Reason in Common Sense. Here it is held that in a life of reason, if it were possible to perfectly consummate it, intelligence would be at once the universal method of practice and its continual reward. "All reflection would then be applicable in action and all action fruitful in happiness." This is conceived as making the life of reason likewise the sum of all art, for operations become arts when their purpose is conscious and their method teachable.

In attempting to chronicle this history of rational progress the author finds no system of modern philosophy particularly helpful. He enters upon something of a criticism of some aspects of this philosophy, including Positivism, which he finds to be wanting in positive

ideal. Christian philosophy is found to be too mystical, in which it succeeds in expressing ideal life only by misrepresenting its history and conditions. In the Greek philosophy alone he finds straight thinking, and a real basis for the expression of the life of reason. In a summary tracing of this philosophy, he finds its final expression in Aristotle, yet of course needing restatement in each succeeding age.

The author sets his task, not to construct, but to interpret ideals. His program therefore is: "Starting with the immediate flux, in which all objects and impulses are given, to describe the life of reason; that is, to note what facts and purposes seem to be primary, to show how the conception of nature and life gathers around them, and to point to the ideals of thought and action which are approached by this gradual mastering of experience by reason. A great task, which it would be beyond the power of a writer of this age either to execute or to conceive, had not the Greeks drawn for us the outlines of an ideal culture at a time when life was simpler than at present and individual intelligence more resolute and free."

The author's discussion of Reason in Common Sense is carried through twelve chapters, somewhat after the evolutionary method. The topics discussed are: I., 'The Birth of Reason'; II., 'First Steps and First Fluctuations'; III., 'The Discovery of Natural Objects'; IV., 'On Some Critics of This Discovery'; V., 'Nature Unified and Mind Discerned'; VI., 'Discovery of Fellow Minds'; VII., 'Concretions in Discourse and in Existence'; VIII., 'On the Relative Value of Things and Ideas'; IX., 'How Thought is Practical'; X., 'The Measure of Values in Reflection'; XI., 'Some Abstract Conditions of the Ideal'; XII., 'Flux and Constancy in Human Nature.'

The treatment of this division of the work is naturally psychological-epistemological in character. The awakening of the mind in the midst of a complex world of experience, and its attempt to construe and interpret these experiences, and from the raw material of phenomena to work a finished product or rational system, is the history to be traced. Accordingly the elementary psychological principles are somewhat cursorily discussed, in which the experiences of sense and the problem of perception, whereby the natural objects are made concrete and specific, are successively set forth. The treatment is critical and interpretive. The views of Hume, Kant and Berkeley are especially examined.

It is impossible here to more than indicate the general lines of treatment. Relative to the concrete object, he concludes that: "A reality is a term of discourse based on a psychic complex of memories,

associations, and expectations, but constituted in its ideal independence by the assertive energy of thought. An appearance is a passing sensation, recognized as belonging to that group of which the object itself is the ideal representative, and accordingly regarded as a manifestation of that object. Thus the notion of an independent and permanent world is an ideal term used to mark and as it were to justify the cohesion in space and the recurrence in time of recognizable groups of sensations. This coherence and recurrence forces the intellect, if it would master experience at all or understand anything, to frame the idea of such a reality."

From the perception of concrete natural objects the mind has the task of unifying nature as a whole. This it has to do through concepts or ideas. Thus existence reveals reality only when the flux discloses something permanent that dominates it. This permanency is found in the persistence of sensation and the derived ideas. It is here that mind is discovered. It is regarded as the erratic residue of existence, the leavings, so to speak, and parings of experience. The perennial puzzle concerning the nature of the object and the subject, and the elements which each contribute in the problem of reality, naturally arises here, and finds an extended examination.

Because of the mystery of ultimate reality and the confusion of the objective and the subjective elements which enter into the problem, there have been two contesting directions of thought, namely, materialism and idealism. The tendency of the idealist to make even the objective world a product of mind, might find no refutation if solipsism could be maintained. But the existence of other minds than ours brings the whole notion into disrepute. The existence of fellow-minds makes necessary a common world of experience, as well as a community of intelligence. The discovery of such other minds, the author suggests, is obtained from analogies between actions and bodies, and this is the only test of valid inference regarding the character of conceived minds.

The chapter on Concretions in Discourse and Existence is suggestive. Here naturally the author touches pretty deep metaphysical problems. In the nature of reality the difficulty is to properly characterize what is concrete and what is abstract. He concludes that it is altogether erroneous to view an object's sensible qualities as abstractions from it. They are really its original and component elements. On the other hand the sensible qualities can not be viewed as generic notions arising by comparison of several concrete objects, "seeing that these concretions would never have been made or thought to be

permanent, did they not express observed variations and recurrences in the sensible qualities immediately perceived and already recognized in their recurrence. These are themselves the true particulars." Language then, he holds, is a repository of terms formed by identifying successive preceptions, as the external world is a repository of objects conceived by supposing perceptions that exist together. Logical products are not really abstract, but concretions arrived at by a different method than that which results in material conceptions. "Whereas the conception of a thing is a local conglomerate of several simultaneous sensations, logical entity is a homogeneous revival in memory of similar sensations temporally distinct."

The supremacy of logical ideas, which nevertheless have their value dependent on facts and experience, is helpfully discussed, in the dissertation on *The Relative Values of Things and Ideas*. In this and the more practical fields where he discusses the measure of values, and the conditions of the ideal, we think is to be found the most valuable part of the work in its suggestiveness. In the final chapter he seeks to find a ground of progress and constancy for humanity, in the midst of life and death. "Inheritance arrests the flux by repeating a series of phases with a recognizable rhythm; memory reverses it by modifying this rhythm itself by the integration of earlier phases into those that supervene. Inheritance and memory make human stability." Human nature at its core has for its substance nature at large. It is only one of its more complex formations. The main principle is, that nature carries its ideal with it and that the progressive organization of irrational impulses makes a life.

Volume two discusses 'Reason in Society.' The divisions of the work are cast into eight chapters, as follows: I., 'Love'; II., 'The Family'; III., 'Industry, Government and War'; IV., 'The Aristocratic Ideal'; V., 'Democracy'; VI., 'Free Society'; VII., 'Patriotism'; VIII., 'Ideal Society.'

In this volume is made practical the fundamental principles laid down in volume one. The first social instinct is the propagation of the race. This is therefore the primal motive of love. Love may also have a high idealizing function. There is accordingly a warring between mere animal lust and the ideal. The problem is to harmonize the two functions. This is not impossible, for human reason lives by turning the friction of material forces into the light of ideal goods. Two directions of evil have resulted; the one, owing to conventional practices, has led to immorality and duplicity; the other, in its extreme revolt, has sought to make chastity seem to be essentially holy.

Both of these notions are irrational, and love in its rational function transforms the world. "The machinery which serves reproduction thus finds kindred but higher uses."

To foster and protect life when born is a higher good than birth itself. Hence the need of the family. The relation of parents to children is wisely discussed. That children do not remain children, but become men and women, and therefore should be so trained as to fit them for this real goal of their existence; and that parents too often do not recognize the time when their children pass into moral and responsible beings, and so change their method of directing them from the word of authority to that of intelligent moral appeal, seems to be the most common shortcoming. That the family is the place of early experiment and so of fundamental education, which nothing else can give, is self evident. Yet singularly enough the education of children is generally left almost altogether to society to perform. The average bungling regulation of family life is shown. The problem of domestic infelicity, the divorce evil, and suggestions of the possible transformation of the family are well discussed, in which, notwithstanding the present distractions, it is shown there is no possible substitute that offers rational relief. The family indeed serves to keep the race alive, and becomes the point of departure for many other beneficent institutions.

As the family grows, especially the patriarchal family, there arises the necessity of the division of labor. Hence the rise of industries. As the family becomes the tribe, and the individual husbandman becomes able to defend himself, the patriarchal life disappears. The fixed occupation of land turns a tribe into a state. Civilization thus brings three chief advantages: greater safety, greater wealth, and greater variety of experience. Whether it does not bring with it a more complex and therefore more artificial life, may be questioned. As to civilization being a blessing, depends on its ulterior uses. For a life of reason civilization is evidently necessary. The use and abuse of wealth, custom as codified in law, forms of government, are suggestively treated.

War is likewise instructively discussed, in which it is pointed out that pugnacity is human, and that there is an absolute value in strife. Hence the value of modern sports, which embody wholesome exercise of this function. Armies arise from a ravenous horde in a conquered country, yet the cost of such an incubus may come to be regarded as an insurance against further attack. Thus the army becomes a rational device for defensive purposes. Some reflections are offered on the possibility of international arbitration, backed up and compelled by the great and dominating powers.

Out of the forms of government come two ideals, namely, aristocracy and democracy. The causes of aristocracy are natural and their privileges just. They grow out of special talents and the right to their fruits. Inequality has its advantages; it especially lends variety which breaks up the dull monotony of life. If men are to reap what they sow, then there must ever justly be the more and the less eminent. Inequality is not a grievance, but suffering is. Hence no privilege can be granted which imposes a suffering.

The difficulty in aristocratic government is that it is subject to abuse, and therefore becomes non-representative. Mere hereditary rights do not guarantee a proper aristocracy, and deterioration forfeits its claim. There are, however, conditions of a just inequality. The ideal state and the ideal universe should be a family where all are not equal, but where all are happy.

Two forms of democracy are distinguished, social democracy and democratic government. "Social democracy is a general ethical ideal, looking to human equality and brotherhood, and inconsistent, in its radical form, with such institutions as the family and hereditary property. Democratic government, on the contrary, is merely a means to an end, an expedient for the better and smoother government of certain states at certain junctures." Of course the democratic theory would be clearly wrong if it should hold that eminence is not naturally representative, but subject to decay. Modern democracy is largely industrial. If democracy would allow the benefits of civilization to be integrated in eminent men, this would be timocracy — a government by men of merit. This is perhaps the ideal of reason. Public spirit must be the life of democracy.

We may perhaps best make a summary of the discussion of Reason in Society in the author's own words: "We have seen that society has three stages — the natural, the free, and the ideal. In the natural stage its function is to produce the individual and equip him with the prerequisites of moral freedom. When this end is attained society can rise to friendship, to unanimity and disinterested sympathy where the ground of association constitutes at the same time a personal and emotional bond. Ideal society, on the contrary, transcends accidental conjunctions altogether. Here the ideal interests themselves take possession of the mind; its companions are the symbols it breeds and possesses for excellence, beauty and truth."

The author of these series of works has certainly set before him an ambitious task. The first volume seems to us to be disappointing. It seems to lack definiteness of both purpose and expression. There

is certainly nothing new or fruitful either in psychological or metaphysical principle or treatment. As a foundation-laying even for the following works it seems to us to lack point.

The second volume, on the other hand, seems to us to be somewhat original in substance and manner of treatment, and is certainly fruitful in suggestion as well as principle. The work will repay reading, and we may look forward to the completion of the entire series with interest.

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MENTAL EVOLUTION.

Natural Selection and Self-conscious Development. H. W. WRIGHT.
Philos. Rev., 1905, XIV., 40-56.

In order to determine whether natural selection is a governing law in self-conscious development, it is necessary (1) to examine the nature of natural selection as it was originally described and held to be operative in connection with the evolution of the organism, and (2) to note the distinguishing characteristics of the sphere of intelligence and obligation, to which it is proposed by some to apply the law of natural selection.

The view of natural selection adopted by the author is the extreme mechanical interpretation of Darwin. From the *Origin of Species* he finds warrant for saying that natural selection depends upon interaction (1) between organism and environment, and (2) between individual organisms. In both cases the interactions are between agencies which are externally related. In contrast with this external form of relation existing between the agencies in natural selection, it is pointed out that the relation of the conscious self to the objective world is not external and physical but functional and organic. This unique relation is so intimate that the self owes its development and existence as a person to its relations with the objective world, and the world owes its character and meaning to its relation to the self-conscious individual. The relation of individuals to each other is also not external, but intimate. The meaning and opportunities of the environment increase as the number of individuals increases.

Such a wide difference in conditions results in the world of self-conscious development, in a kind of adjustment different from that which arises under natural selection. The environment must supply ends which appeal to the individual as worthy of pursuit. Since the

character of the environment depends on the individual, there need be no scarcity of ends, and since the relation of the individuals to each other is so vital there is no occasion for conflicting interests. Consequently there is no 'struggle for existence' and therefore no natural selection as found in the organic world. However, the author disclaims any intention of implying a break in the continuity of the evolutionary process. He recognizes both the physical and teleological factors, but emphasizes the teleological factor in the higher grades of development.

Realizing certain difficulties of this position, the author raises and replies to a number of objections. Is not the adjustment of the individual to the environment imperfect because many of the ends sought are unattainable? In answer it is to be said that the environment is only responsible for the totality of ends. The choice of specific ends rests with the individual. But are not certain ends forced upon the individual, — life, for instance? Mere existence, by the majority, is given a subordinate place among the ends that govern them. Is not organic existence indispensable to the attainment of the ends of intelligence? The environment is sufficiently well adjusted to render existence possible, and furthermore the individual can transform his environment. In the extreme case where existence is cut off, we may say that the true significance of self-conscious life is not to be estimated by the length of physical existence. As to the relation of individuals to each other, the difficulties which arise on account of the fierce competition which actually exists in intelligent society are not discussed, but are declared to be not insoluble.

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Essai sur l'évolution psychologique du jugement. THÉODORE RUYSEN. Paris, Alcan, 1904. Pp. 382.

This title is misleading, for the book is by no means exclusively devoted to the study of judgment, but discusses all forms of consciousness, in the order of simple and early to complex and late, without in the least making good their claim to be considered forms of judgment. The thesis of the book is well formulated on page 242, where the author says: "In the preceding pages we have considered knowledge (*la connaissance*) as a process, no longer logical but dynamical, * * * as an adaptation of all the physico-mental organism to an external stimulus." Adaptation, the author teaches, implies both the initiation of novel reactions and the repetition of actions already performed. He defines judgment, for example (p. 48), as 'reaction, defensive or

offensive, of the organism against an environment more or less near; or else,' the author adds, 'it is the equally active attitude of the spirit towards its own internal modification.' And he describes belief (p. 328) as 'an adaptation or rather a readaptation, that is, an accommodation of hereditary or acquired habits to new cases proposed by experience.'

It should at once be granted that the book accomplishes, often very effectively, this main object. It shows, in other words, that most of the different modes of consciousness may be regarded as adaptations to environment, involving both initiation and habit. But this result has, strictly speaking, a biological rather than a psychological value. From the standpoint of analytical psychology, moreover, the shifting meaning assigned by the author to the key-word 'adaptation' renders the basal conception of the book a trivial one. Most often 'adaptation' is used in a sense purely biological and physiological to refer to motor reactions. Again, adaptation and attention are treated as if practically synonymous; more rarely, adaptation is regarded as the relation of one self to another. It is obviously futile to define the different modes of consciousness in terms of a unit of such diverse significations.

The confusion of the physiological with the psychical standpoint is shown in other ways. M. Ruysen often treats the physiological accompaniment or condition of consciousness as if identical with it. Thus, he says: "For the child to appreciate a distance is to renew the useful effort to run through it; to recognize a person is to hold its arms out to him" (p. 138). But recognition, so far as it is a psychic phenomenon, is not identical with the arm lifting, though accompanied or preceded by it, and though constituted in part by the consciousness of the lifted arm. Once, at least, the author is even guilty of arguing that because a physical condition is complex, therefore the corresponding psychic state is also complex (pp. 99-100).

Barring these fundamental criticisms, this reviewer has only commendation to offer. M. Ruysen is widely read in the literature of psychology, biology and philosophy. His book abounds in vivid description, often accompanied by keen analysis, of concrete psychic experiences. Almost at random one may cite, as of real value, the definition of the concept as the habitude of attention (pp. 148, 154); the vigorous disproof of the verbal theory of generalization (p. 151); and the decrual of 'mental chemistry' (p. 142). The comparison of belief, faith and will, and the analysis of the æsthetic judgment, are particularly full of suggestiveness even to those who do not subscribe unreservedly to the author's conclusions. M. W. CALKINS.

Materials for the Psycho-genetic Theory of Comparison. F. N. HALES, Brit. J. of Psychol., 1905, I., 205-239.

The materials used by the writer in his investigation are the gesture languages of deaf mutes and primitive peoples, together with the less developed forms of oral language.

The evidence from gesture language goes to show that there are four clearly marked stages of development, through which the expression of judgments of comparison passes. The most primitive method (opposition) consists simply in the assertion of the quality in respect of which comparison is made in the case of one of the objects, and denial of it in the case of the other. The second stage is reached when a quality is asserted with respect to both objects and the difference indicated by the amplitude or emphasis of the gesture, which may be either purely imitative or representative in a rudimentary way. In the third stage (separation), as for example in the comparison of distance or size, a certain arbitrary distance between the hands is made use of to represent a standard of comparison, more or less being indicated by the increase or diminution of the distance between the hands. This is plainly a step forward toward the substitution of one single synthetic judgment for two separate and independent judgments. Finally, from the third stage there is a natural change into a fourth, which is the nearest approximation in gesture language to an adverbial expression. Here the gesture for increase and that for quality become separated. Corresponding to these stages, the gestures used develop from indicative in the first, to imitative in the second, and symbolic in the third and fourth. The author bases the above analysis on the results of answers to a questionnaire widely circulated among those familiar with deaf mutes and upon information from those having first-hand knowledge of the gesture language of the American Indians.

An investigation into oral languages shows that the expression of comparison judgments may be brought under six main principles, some of which correspond somewhat closely with the types found to exist in gesture language.

These principles are those of opposition, exclusion, separation, gradation, apposition and composition. The methods of gradation and separation are offshoots of opposition through exclusion. These methods may be illustrated as follows: I. Opposition. Food good, water no good; II. Exclusion. Water and food, food good; III. Apposition. Next to water food is good; IV. Separation. Starting from water, food is good; V. Gradation. Food is better than water.

Composition is not dealt with by the author, as he regards it of slight psychological significance.

The conclusion reached is that the most primitive experience in sensory discrimination of objects is the apprehension of a novel feature in the one, together with the failure to apprehend it in the other, the experience corresponding to the first and second of the above methods of expression. The simple apprehension of a novel feature gradually passes over to the reference of the novelty to a standard as expressed in the forms of apposition and separation. This reference to a standard is the beginning of a recognition of qualitative continuity, which after several stages of development is expressed by the form of comparison judgment with which we are familiar. Thus we see that the older psychological doctrines of comparison are chiefly founded upon the final stage of a long and complex process of development.

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CHILD PSYCHOLOGY.

L'étude expérimentale de l'intelligence. ALFRED BINET. Paris, Schleicher Frères, 1903. Pp. 311.

But little of the interesting character of Professor Binet's present work would be suspected from its title alone. It is, in the main, an account of some telling experiments upon two young girls of his family — experiments which bring out, as by sharp portraiture, the two contrasting types of mind to which the children belong. The book is thus a contribution to Individual Psychology, and the success with which the author has carried out his intricate study fully warrants a certain tone of rejoicing and of victory, which issues now and then from behind dry lists and cheerless tables.

The girls who were the chief subjects of the investigation here reported were, at the close of the principal experiments, respectively thirteen years of age and fourteen and a half. A great variety of tests were tried upon them, including the writing of groups of words and sentences, the filling-out of unfinished sentences, the description of objects and events, the rapid underscoring of special letters scattered through print, the transcription of numerals, the reaction to stimuli of touch, the memorizing of prose and verse, the recollection of words, narratives and designs rapidly presented, the reproduction of stretches of space and extents of time. One may get, even from this arid list, an idea of the range of the author's experimentation, but no impression of the freshness of his finds.

It soon became evident that the girls were of quite opposite mental character. The older, Marguerite, keeps in much closer touch with the world of actual things and events. She is more precise and 'objective' in the description of objects set before her. Her younger sister, Armande, proves to be more imaginative and emotional: the world of fancy and of feeling is, for her, as real and important as is the world of sensible fact; her ready memories spring from a more distant past than do those of her sister; in describing an object, even when present, its physical features are seen vaguely through an atmosphere of sentiment and of imagery.

Or, again, Marguerite, the more matter-of-fact, shows by various tests a better voluntary control of her attention; she can by sheer will-power hold herself down to the work in hand — she can, *e. g.*, memorize well what is neutral and unattractive; she has a shorter and more constant reaction-time than has her sister; she can more accurately reproduce a given space-extent.

Armande, on the other hand, is more the creature of moods, the thing in hand must of itself interest her or she can do little with it; she cannot in a set time memorize *verbatim* as long a literary selection as can the older sister, though she equals her in the reproduction of a series of ideas given her but once; and while Armande cannot reproduce extents of space as accurately as can her sister, yet she surpasses her in reproducing durations of time. In her case the inner life is rich and dominant, while her sister is more practical and more at home in the external world. To the one, the author at times attaches the term '*imaginatif*'; to the other, the term '*observateur*.' They typify for him two contrasting strains in human intelligence, the literary and the scientific spirit.

The detailed facts upon which Professor Binet's account rests are gathered not by experiment pure and simple, but by experiment joined with persistent urging of the girls to introspection. The results thus obtained are checked by observation of their daily behavior. The self-observation of which these children give evidence would be well-nigh incredible if it came through a less trustworthy channel. Many a psychologist might envy them their introspective skill. And yet even when one has misgivings at the first sight of so much introspection from persons so young, yet in the end the direct experimental results so strongly support the self-observations, and these so strongly support one another, that the reader finds himself putting more and more faith in the validity of the author's procedure. It is a fine example of the study of two characters, and the varied results for

each individual are shown to have a mutual connection and to be in harmony with the character to which they belong.

But besides this, the book is important for its support of the doctrine that *thought* and *imagery* are quite different things. A given thought may be definite though the imagery accompanying it be vague; the thought may be special or individual while the image may have no specific or individual marks; and, finally, a thought may be real and clear without having any discoverable imagery at all. Such a view is, of course, not wholly new, but experimentalists have been especially prone to overlook the distinction between images and the thought which informs them.

If one were to speak of deficiencies in a book so able, he might pass over the abundance of printer's errors and the want of any proper index, and mention that the author seems at times to give too great weight to negative evidence. When a child says that she does not have such or such a mental process, — *e. g.*, incipient articulation or verbal imagery, — he is perhaps too ready to accept such a report as proof of its absence. More should be made of the possibility that the observation was faulty. Beyond this, one need hardly more than refer to a certain partisan and uncatholic spirit at times displayed. The German laboratory methods are condemned directly or with faint praise. '*L'époque Wundtienne*' with its physiological and statistical leanings is spoken of almost as of a bygone age.

We poor Americans are pilloried by name, — we with our love of doing big things and of publishing accounts of experiments on persons by hundreds and by thousands! But the better time, our author tells us, has long been dawning. '*Le mouvement nouveau*,' to which this present work belongs, pays proper attention to the individual traits of the person experimented on; it lays stress on introspection along with the experimental procedure; it studies the higher phenomena of mind, rather than its beggarly elements. All torn and trampled as one's partisan and patriotic feelings must be, after such an onslaught, yet, — with some pride that we are able to show our author the better way, — we express our good-will both toward him and toward *le mouvement nouveau*.

G. M. STRATTON.

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Studies of a Child. ALEX. F. and ISABEL C. CHAMBERLAIN.
Pedagogical Seminary, 1904, XI., 264-291.

The subject of these studies, which are practically confined to the third year, is the daughter and only child of the authors. The material

consists of extracts from elaborate diaries — from which further citations are promised in later articles — with only sufficient interpretative and explanatory comment to give connectedness to the series.

The observations are arranged under sixteen headings with the date of each entry, so that direct comparison with other records may be made as to relative advancement in any given particular. With few exceptions, such as instances of fear, observations of nature, establishment of right-handedness and time discrimination, the studies are linguistic in character. The vocabulary is unusually copious for a child of three, which is doubtless due to constant companionship with the parents, but it seems also to have been most flexibly applied. Many aspects of the significant expression of thought are taken up in the course of the article, including the development of habits of affirmation and negation, instances of argument and expostulation, imaginative processes, definition, comparison and transference of meaning, the spontaneous formation of words and language, story-telling, rhythm, rhyme and song.

The thirty or forty cases of analogical transfer of class names, many of which include under a single entry a series of such transitions, afford interesting illustration of the assimilation and modification of concepts in the child's mind, and the reader who wishes to add to his store of infantile definitions will find in section V. a hundred odd instances given, practically all of the familiar use-wont type. Under 'Poetry and Song' the authors give phonetic reproductions of the child's liltings and babblings which consist of a broth of sense and nonsense, nursery rhymes combining with available fragments of prose sentences and strings of meaningless syllables, in which a pronounced sensitiveness to rhymed arrangements is added to the ordinary tendency to rhythmical utterance. Students of the development of speech as well as those interested in that of sensibility to rhythm must be grateful for every addition to this class of material, and observations are much to be desired which connect speech-motor phenomena with the appearance of rhythmic movements generally, whether spontaneous or responsive. In this connection may also be mentioned the need of systematic, and if possible statistic and quantitative, observation of the succession of uncoördinated and coördinated, undifferentiated and differentiated uses of the limbs which appear in course of the establishment of right-handedness and preliminary to it.

The enormous amount and variety of gratuitous exercise in verbal forms which the child's life manifests at this most active stage of speech development is indicated in the entries under Spontaneous

Language where in some ten records, comprising altogether not more than perhaps fifteen minutes' 'talk,' over four hundred and thirty distinct forms were noted. The more intimate nature of the process of anticipatory training of the mechanism of expression which these word-plays afford is shown in the manifold variations of root forms, the constant reappearance of resembling syllables and the complication of verbal stems with a series of terminations by which they are marked.

No general conclusions are aimed at in this article, the contents of which are intended as a contribution to the material data of child psychology, which must be patiently accumulated through such laborious journal records of trained and systematic observers as the basis of any theoretic formulation of the processes of development.

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ROBERT MACDOUGALL.

Psychology of the Language Interests of Children. A. W. TRET-
TIEN. Ped. Sem., 1904, XI., 113-178.

The author has attempted to harmonize the periods of language growth with the stages of the unfolding mind. He discusses the innate, inventive, supernatural, imitative or onomatopoetic, and the developmental theories of language development. His divisions of life are the usual ones,—infancy, youth, preadolescence, and adolescence.

Infancy is characterized as the primary period of language development. It is the time of learning the mother tongue and extends from birth to the middle of the third year. Infancy is subdivided into the reflex period, the period of articulation, and the period of speech coördinations. The reflex or automatic period is one of physiological adjustments, marked by the undifferentiated reflex cry, which is followed, first, by the early differentiated cry that makes known the wants and discomforts by a modification of vocal utterances and, finally, by spontaneous babblings that result in a recognition and discrimination of sounds. The period of articulation, which embraces the second six months of life, is the time to practice upon the 'raw material of language.' The mental development is accelerated and there is a tendency to imitate sounds and movements.

Thus far in the child's life, language has expressed emotional states; it now expresses objects of thought. There is an understanding of the word. The time of teething and learning to walk is usually a period of language retardation. The period of speech coördinations or the independent use of language is subdivided into the sentence word, and the sentence with and without inflection. On the side of

training, it is shown in a forcible way that neither 'voice culture' nor 'baby talk' should be indulged in or permitted by parents.

Childhood extends from the third to the seventh years. Physiologically, it is the time of rapid growth. Psychologically, it is the questioning age (the what, where, and why period of children); the time of interest in myths, rhymes, stories, words, play upon sounds of words, combinations of words, drawing, personification, and dramatization. Pedagogically, it is the time when the child should be put in a rich language environment, allowed to come in contact with nature, and encouraged to relate his own experiences in his own way. The overshadowing impulse of the period is the myth-making impulse, and although it may express itself in colored and fancied forms, no alarm should be felt.

The preadolescent period is the time of verbal memory. It extends from the seventh to the eleventh or twelfth year. Its advent is marked by physical readjustments and its close by extreme physical disturbances. Interest in childish myths and fairy tales is diverted to stories of life and narratives. The child becomes interested in new words because of their form or because of their association. Economy of expression is shown in that the child is less sensori-motor and more associative, speech forms are rapidly developed, and memory becomes more exact. Definite, concise, clear statements become the rule rather than flowery misstatements.

Adolescence, the time of functional maturity, is known as the secondary period of language development. Significant language interests arise. The child longs to commune with nature. A passion for reading books arises. Interests are less sensuous and more emotionally interpretative. The vocabulary often proves inadequate and the child is overcome by the dumb-bound feeling. Again, secret languages are invented. There is spontaneous impulse to write, speak, recite, debate.

The article does not reveal marked originality. It is valuable as a well-arranged compilation of old material. It is luminous and vigorous. The pedagogical conclusions are significant but very general. The appended bibliography is comprehensive and inclusive.

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Experimentelle Untersuchungen über die Hausaufgaben des Schulkindes. F. SCHMIDT. *Archiv f. d. Gesamte Psychol.*, 1904, III., 33-151.

The author carries out his investigation in consideration of the following general home conditions:

1. Influence of parents, brothers and sisters, whether that of helpfulness, hindrance or indifference.
2. Place where pupils live, number and size of rooms, heating, lighting, whether in basement or attic, etc.
3. Time of day when work is done.
4. General conditions, such as social surroundings, nutrition, use of tea and coffee, conditions for sleep, etc.

The investigations are made in German schools in two classes, the VIa and VIIa, with pupils from twelve to thirteen years of age. The method was as follows: Two similar lessons equally difficult were given, one to be worked out at home, the other at school. In three weeks, for the sake of verification, the same lessons were again given. In all, eighteen home and eighteen school lessons were employed in the test. Only work already familiar was used in order to avoid practice effects. The aim was to make the home work a natural outgrowth of the school work. The teacher designated the time when the work should be done, but did not suggest how it should be done.

The lesson material tested technical skill, understanding, memory and imagination. Lessons were assigned in:

1. Copy work, in which pupils changed German type to German script; German type to Roman script; and direct to indirect discourse and *vice versa*.
2. Number work, testing both the pure and applied phases of this subject.
3. Composition, testing both constructive ability and thought development.

In general the conclusions of the author may be summarized as follows:

1. Home work is of less value than school work, but we are not to conclude that home work is negative in value.
2. The average variation in the quality of home work in both form and content is greater than in school work.
3. Daily home work should be avoided, because it tends to superficiality. But work done occasionally at home may surpass school work in certain cases.
4. In city schools, with morning and afternoon sessions, and in winter schools in the country, home work should not be done.
5. The time of day most suitable for home work is (for copy and number work) from five to six in the evening; and (for composition) in the forenoon and from five to eight in the evening.
6. Written number work should not be attempted at home, because the quality of such work is inferior.

7. Home composition work should be done when the pupil can work in solitude, because such work is qualitatively better than when done at school under the influence of the other pupils.

8. Home tasks should be derived directly from the instruction, since in that case it will be well prepared for and most carefully controlled.

The author emphasizes the value of the experimental method in dealing with the question of home study. By this method the teacher deals individually with his pupils. He comes to know not only how to adjust their home work, but how to deal with them according to their individual needs in general.

The value of the study consists not so much in a final solution of the question as it does in revealing a method for the study of the question. The author's conclusions cannot be taken as final, because the tests are limited not only to German schools but to particular classes and conditions in those schools. Possibly the same kind of experiments made in the United States, or even in other parts of Germany, would give somewhat different results. The value of the study remains, nevertheless, in that it suggests how each teacher may attack and solve his own problem of home lessons.

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FEEBLE-MINDEDNESS.

Experimental Studies in Mental Deficiency: Three Cases of Imbecility and Six Cases of Feeble-Mindedness. F. KUHLMANN. Amer. J. of Psychol., 1904, XV., 391-446.

Since by far the greatest source of our information regarding the characteristics of arrested development in children has been merely from general observation, there is an inordinate lack of accurate descriptive terminology. There is 'a variety of different classifications, based upon different principles, and combinations of principles, and not one of them is uniformly followed by many writers.' The author of this article follows the common classification of these cases into idiots, imbeciles and feeble-minded, according to the *degree* of general development. He also insists that experience will enable us to make a farther classification of each type into a low, a middle, and a high grade, which is the only means to accuracy when it comes to a comparison of results from different cases.

To compensate for this lack of accurate descriptive terminology and to give a general idea of the development of each case during the

time the individual remained under observation (the experiments were carried on in the Massachusetts School for Feeble-Minded Children), the writer gives a brief description of each case 'At Time of Admission' taken from the physician's record, and some 'Present General Observations' made by himself during the four months in which the tests were carried on. As a farther aid photographs are appended of each case in two different postures. The nine cases studied were not selected at random, but were intended to be representative.

1. The first class of experiments are those on memory. The purpose is mainly twofold—'first to determine what the proper method would be for getting evidence that would decide the essential problems that such tests in general aim at, and, secondly, to get results from the particular cases studied for the sake of comparison with other results.'

The results point to the correlation of a 'high memory span and high proficiency to commit to memory, with a low degree of memory permanency.' This correlation may be accounted for, however, by the principle of normal psychology that whatever is committed to memory under a high pressure of effort and attention is least permanent. Incidentally it was brought out also that 'there were some instances of decided memory preferences,' those subjects that were poorest in mental development presenting the most striking examples of this. These preferences are shown to be due to differences in interest.

2. The second class of experiments relate to the ability gained by practice in performing certain set tasks. This was tested (*a*) by having the subjects throw at a target, and (*b*) by having them tap on a reaction key in unison with the beats of a metronome.

The results of the throwing experiments show that there is some ability gained by practice, but that this is more than counterbalanced by a loss of interest in the task as soon as the novelty wears off. As a consequence, the practice curve gradually falls after the second week. When the flagging interest is again aroused by artificial stimulation, the curve may be raised even above the level of its starting point. The daily records of each child show great variations due to changes in his daily disposition. It appears, however, that a favorable disposition alone does not necessarily improve the quality of the work in a given task, but does so only when interest in that particular task is aroused. Otherwise the surplus energy expresses itself in other directions.

From the experiments in tapping on the reaction key it appears that some of the children are unable to profit by practice when, for

example, the required rate of tapping conflicts too much with their 'natural rate.' It appears, moreover, from these same experiments, that 'they are almost completely incapable of any genuine voluntary effort in a task that they dislike, and that normal fatigue under such circumstances is impossible with them.' The degree of attention and voluntary effort exerted is, in general, directly proportional to the degree of intelligence the subject possesses. It was further found that their association and discrimination time was much longer than that of normal children and that it varied with the degree of intelligence.

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EDUCATION.

The Educational Theory of Immanuel Kant. Translated and edited with an Introduction and Notes by EDWARD FRANKLIN BUCHNER. Philadelphia and London, J. B. Lippincott Co., 1904. Pp. 309.

Kant's educational theory is derived chiefly from lecture notes used by him 'during four semesters between the winters of 1766-1777 and 1786-1787.' Coming to us merely as lecture notes, they are necessarily fragmentary and contain many logical imperfections. Professor Buchner's extended introductions and notes, however, render them extremely suggestive, alike to the general student of Kant, and to those interested in the history of educational theory.

Since, in another review of this book,¹ I discussed in some detail the lecture notes themselves, this notice will be devoted mainly to some points gleaned from the translator's excellent introductions. For one thing, the relation between Kant and Rousseau is clearly analyzed. "They agree on the necessity for a fresh start in establishing the principles of education." They are alike, also, in recognizing the necessity of the educator's knowing the child; in their belief in negative education at the first; in the importance of self-activity and of the physical culture of the mind. But in many important points they naturally part company. "To Kant, morality requires its pedagogical beginnings in discipline, the first true step in education, and religious instruction is necessary even as an expedient for social respect." The naturalism of Rousseau is of course far removed from the moral idealism of Kant. They build in opposite directions, the one back to savagery, the other to an ethically constituted social whole.

¹ *Journal of Philosophy, Psychology, and Scientific Methods*, Vol. I., No. 8.

"One praises barbarity, and attempts to usher in the time when nature shall be allowed to work out her own potencies unhindered by human ideas and the conventionalities of a social education. * * * The other, while starting with nature, shows how weak are instincts and how rude is savagery, and thus invokes the intelligence of which man is in need in order properly to develop those instincts in him, which are less trustworthy than they are in animal nature" (p. 27). To Kant, the good is not present in nature, but is the product of growth and training. Instead of instinct and inclination, he advocates the supremacy of reason and duty. After the first negative education, it must become a positive agency in the construction of character.

The Kant of the 'Lecture Notes' is not to be confounded with the Kant of the 'Critiques' (p. 33). His educational theory was not deduced from his philosophy, and yet, in a very real sense, Kant was moved in his philosophy by true pedagogical instincts.

Professor Buchner describes succinctly his psychological theory but points out that his psychology as such has no great or direct influence upon his educational theory. "The human nature which supplies the recurrent theme of pedagogical idealism in the introduction is the human nature of broad anthropological generalizations rather than that psychological individualism which is open to introspective analysis" (p. 52). However, his conception of the end of education as the perfection of man, he finds in the inner life rather than in outer circumstances. It is only in the latter half of the notes that mental training as such is specifically considered. Here, naturally, he is most absorbed in the training of the cognitive faculties and in this portion of the discussion he manifests a genuine genetic spirit. According to Professor Buchner, Kant's ethics holds a relatively more important place in educational theory than does his psychology, but, as he says, this is ultimately psychological in that it is based upon the will. In fact Kant mentions the 'will' more than any other mental process. "In his demand for a union of knowledge and power, and in his rule of learning by doing, this pedagogy of the will receives further vindication and application, and, finally, in moral education, it is will and not mere faculty training, which coördinates all the requirements and opportunities of securing the destiny of man in the moral behavior of the child" (p. 55).

Kant's place as an educational theorist is unique. His doctrine is described as a 'synthesis of the evolutionism of anthropological science and the ethical idealism of philosophy' (p. 57). His theory of the physical evolution of the universe is, of course, well known. He

'stood in the front rank of those who saw * * * the need of regarding the universe as in a state of change and becoming, which follows a law of progress' (p. 58). This conception, applied to anthropological science, was an important organizing principle in his educational theory.

Turning specifically to his educational doctrines, it is to be noted that, although they are not presented as a systematized whole, Kant nevertheless had a 'generic conception of education.' The idea of 'man and his destiny' is certainly fundamental. Education becomes a means for helping man to realize his destiny. To Kant, then, the educative process is thus essentially dynamic and within it 'effort' has a large place — is, in fact, its keynote. Education, he conceives, is not a luxury but a necessity, both national and racial. Man comes into the world 'raw' and helpless; by education alone, and not through nature, is it possible for him to attain the goal of his being. Its necessity thus arises out of the disparity of the infant and the developed human will, while its possibility depends upon the plasticity of infancy. The fact that the infant has 'germinal reason and quasi-germinal morality' makes education a practical possibility. Man 'is equipped for perfection.' Since education is a possible and a necessary process, it must rest upon scientific principles and should be developed into a distinct art. Its value lies in the fact of its being a means to the goal of man's perfection.

Kant regards the science of education as no mere theoretical structure. He stands clearly for experimentation and practical knowledge. The following are some of his principles, or maxims, as summarized by Professor Buchner: "The child must be educated under the dominance of the idea of humanity. The bodily powers must be cultivated to orderly independence. The mental powers must not be cultivated separately, or formally, but in mutual interdependence. Self-doing is the secret of true education, and self-education is its goal. Rules and maxims, not impulses and whims, must be the inspiration and guidance of every educational motive" (p. 71).

To the discussion of Kant's educational theory is added a valuable section on its limitations. These are said to be chiefly as follows: (1) the individual is over-emphasized, (2) the education of woman is not provided for, (3) the treatment of intellectual education is limited, (4) the feelings are neglected. He despises them as much in his educational theory as in his ethical theory. He thinks they weaken the character.

The 'Lecture Notes,' which comprise pages 101-222 of the vol-

ume, consist of an introduction, in which Kant discusses his general theory of education, and the 'Treatise,' in which physical, moral, and religious education are discussed. Under the physical is included intellectual education. Last of all is a conclusion. The translator has added 66 pages of pedagogical fragments from Kant's other writings. These are carefully classified and numbered and contribute much toward our understanding of his educational ideas as related to his philosophical thought.

The copious index adds greatly to the value of the volume as a reference book. It should also be stated that the carefully prepared marginal topics are an invaluable aid to a rapid consultation of the work. It may also be worth while to state that, owing no doubt to the excellency of the translation, the 'Lecture Notes' are very easy and on the whole interesting reading.

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TIME DIRECTION.

The Meaning of the Time Direction. R. A. P. ROGERS. *Mind*, N. S., 1905, XIV., 57-73.

Repeated endeavors have been made to give objectivity to time direction. Kant endeavors to do it by regarding it as an expression of the category of cause and effect, which is the only category that expresses an irreversible relation between objects. *A* determines *B*, but *B* does not determine *A*. Now this category, as intellectual, can only mean that if the cause is given, the effect can be deduced; on the other hand, if the effect is given it is impossible to deduce the cause. As applied to the time series, this means that if the past is given the present and future can be deduced, but given the present and future the past cannot be uniquely deduced, but may be one of several. This difference of relation, for Kant, gives meaning to the time direction; if this were not true there would be a time-order but no time direction.

But such a conception is wrong. The time series is intellectually reversible, the irreversibility is simply a result of limited vision. An omniscient intellect could deduce the only possible past from the given present. This is illustrated by the fundamental laws of rigid dynamics, $s = \frac{1}{2}ft^2$. This may be reversed by merely changing the sign of t . We must, therefore, seek for some other sign of the objectivity of the time direction.

Time direction is psychical; *i. e.*, when the conscious subject is abstracted, nature appears as an endless series of phases, contin-

uously connected, extending in either direction (past or future) indifferently. The laws of science illustrate this. It must, then, be concluded that consciousness must make time direction. Then time direction must have a psychical basis and a psychological explanation.

The explanation must begin with the subjective difference between past and future. Consciousness is always in the present, which is, so to speak, an ever-changing unit containing elements which give a distinction between past and future. In a general sense, these elements are memory and expectation respectively. But the active elements in both accentuate the difference most strongly. Thus desire intensifies the conception of the future. The future is that which can be an object of desire, and is the direction in which the will moves. The past has no actual interest, only a theoretical one.

So much for a subjective and individual criterion of the validity of time direction. But how is there one time and one time direction for all conscious beings? In other words, how is time direction external? Since time direction has only psychical meaning, and since this meaning is given by will, the objectivity of the time direction necessarily implies objective will. The future, then, is the direction in which objective will necessarily moves. Hence, time ceases to be a mere continuum. It becomes time direction. The motive which actuates will is the continuous and progressive development of some unique psychic quality. This quality, by its very definition, must be an 'absolute and common good,' since objectivity of will implies universality. As Nature inevitably strives after an absolute and common good for all conscious beings, we have a reconciliation between rational ethics and natural law.

Finally, the assumption of a Supreme Spirit immanent in nature delivers us from the Solopsism which arises from the conception that any individual human will can guide the processes of Nature. The human will becomes rationally objective through submission to the Divine.

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PSYCHOPHYSICAL PARALLELISM.

Le parallélisme psycho-physique et ses conséquences. ANDRÉ GOD-FERNAUX. *Revue Philos.*, 1904, LVIII., 329-352 and 482-504.

The author's purpose is to show that the principle of psychophysical heterogeneity — bodily automatism with epiphenomenal consciousness — furnishes a basis quite sufficient for all the purposes of psychology.

The various theories of parallelism differ in the extent of physical action which is paralleled by consciousness. The extent of the parallelism is wholly a matter of hypothesis. Nor, even in the clearest cases, is the parallelism worked out in detail. But this is no ground for admitting spiritual causality; for spirit, to act upon matter, must be of the same kind; and this is incompatible with the principle of parallelism.

The conception of spiritual causality has arisen partly from psychological sources — thought as antecedent to action being translated into thought as cause of action — but mainly from the theological prejudice of the inferiority of the body, which refuses to identify the self with the body and seeks a soul which may be declared immortal.

This conception persists in modern psychology in the idea that, while mind and body are generally parallel, there is one form of mental operation — the act of choice — which has no parallel in the physical series. This corresponds to the *liberté nue* of medieval theology. But this feeling of liberty is in reality only the parallel in consciousness of the liberation in the organism of energy for which no outlet is provided in the organized nerve-paths; it takes place at the point where equilibrium between organism and environment is not complete, and where new adjustments are being established. Thus, even in the act of free choice, the cause of the action is physiological rather than spiritual, and the liberty of choice is itself a property of the body.

Our action is, therefore, both determined and free: determined, in the sense that it conforms to the law according to which the sum of energy remains constant; free, in the sense that it marks a redistribution of energy which furthers our organic welfare. The feeling of freedom is simply the subjective aspect of that constant redistribution of energy which is peculiar to organic bodies. And this is all the freedom that can be desired. Spiritual causation presupposes supernatural ends; but when we examine our desires and purposes we find that they refer always to bodily welfare and to bodily activities in space and time.

Examining our consciousness, we find it composed of feeling and image (including sensation). And it is in feeling that we seem to find the ground of mental activity and spiritual causality. But feeling differs from image merely in being more diffused and indefinite. It is the counterpart of cerebral rather than peripheral changes; and the activity is throughout a physiological activity. Thus, consciousness is purely epiphenomenal. It is a contradiction in terms to attribute either sensation to the body or activity to the mind.

Accordingly, since the body is the self, the principle of automatism with epiphenomenal consciousness meets all the requirements of psychology. Nor must we discard the method of introspection, since it is mainly through introspection that we obtain our knowledge of the minute cerebral activities.

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MEMORY.

Memory of a Complex Skillful Act. EDGAR JAMES SWIFT. *Am. Jour. of Psychol.*, 1905, XVI., 131-3.

Two subjects, 'A' and 'B,' practised every day throwing and catching one ball while a second ball was in the air. After the completion of this daily practice a set of ten trials was made once a month for five months.¹ This article gives a record and description of one set of ten trials made under identical conditions fifteen or sixteen months after the last monthly test. The results show that the old skill remained, 'the nervous system had forgotten nothing.' The muscles became fatigued much more rapidly than in the earlier tests. However, not only did the old ability remain, but a marked increase in facility appeared. There were several balls caught which required skill such as was nowhere shown in the regular practice series, and in this one set of ten trials a score was made equal to the best record of the regular practice series and superior to the last test of that series.

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BOOKS RECEIVED FROM SEPTEMBER 5 TO OCTOBER 5, 1905.

The Freedom of Authority. J. M. STERRETT. New York, Macmillan, 1905. Pp. 319.

The History of Agriculture in Dane County, Wisconsin. B. H. HIBBARD. Thesis submitted for the degree of Doctor of Philosophy, 1902. *Bulletin of the University of Wisconsin*, No. 101, pp. 69-214.

Travaux du Laboratoire de Psychologie Expérimentale de l'Université de Louvain. (Bibliothèque de l'Institut Supérieur de Philosophie.) Paris, Alcan, 1905. Pp. 195.

¹ Cf. 'Studies in Psychology and Physiology of Learning,' by Edgar James Swift, *Am. Jour. of Psy.*, 1903, Vol. XIV., p. 201.

- Das Gefühlsproblem.* ROLF LAGERBORG. Leipzig, Barth, 1905. Pp. vi + 141.
- Thought Forms.* ANNIE BESANT and C. W. LEADBEATER. London and New York, Theosophical Publishing Society, 1905. Pp. x + 84.
- Evolution, Racial and Habitual.* JOHN T. GULICK. Washington (D. C.), Carnegie Institution of Washington, 1905. Pp. xii + 269.
- La misura in psicologia sperimentale.* ANTONIE ALIOTTA. Florence, Galletti e Cocci, 1905. Pp. 253.
- Twenty-first Annual Report of the United States Civil Service Commission for the Year ended June 30, 1904.* Washington, Gov. Printing Office, 1905. Pp. 366.
- Congrès international de Philosophie; 2^e session.* Tenue à Genève du 4 au 8 Septembre, 1904. Rapports et comptes rendus, publiés par les soins du Dr. ED. CLAPARÈDE. Geneva, H. Kündig, 1905. Pp. 973.

NOTES AND NEWS.

PROFESSOR EDWIN G. DEXTER has been appointed director of the School of Education at the University of Illinois.

IT is announced that the proceedings of the International Congress of Arts and Science held at St. Louis in September, 1904, will be published by Messrs. Houghton, Mifflin & Co. in eight volumes. Volume I. will be devoted to 'Philosophy and Mathematics' and volume V. to 'Biology and Psychology.'

THE following is taken from the press:

THE summer course in experimental phonetics at the University of Marburg was delivered this year by Dr. E. W. Scripture.

